CLAIMS:

1. A method of estimating a channel response from training symbols that are received over a channel, the method comprising:

determining an initial channel estimate from the training symbols that are received over the channel; and

applying bias to the initial channel estimate to obtain a biased channel estimate.

2. A method according to Claim 1 further comprising:

using the biased channel estimate to demodulate a signal that is received over the channel.

3. A method according to Claim 1 wherein the applying bias to the initial channel estimate to obtain a biased channel estimate comprises:

transforming the initial channel estimate;

performing an operation on the transformed initial channel estimate; and

inverse transforming the transformed initial channel estimate on which the operation was performed, to obtain the biased channel estimate.

4. A method according to Claim 3 further comprising:

repeating the transforming the initial channel estimate, the performing an operation on the transformed initial channel estimate and the inverse transforming the transformed initial channel estimate on which the operation was performed, to obtain the biased channel estimate.

5. A method according to Claim 1 wherein the applying bias to the initial channel estimate to obtain a biased channel estimate comprises:

transforming the initial channel estimate according to a transform matrix;

setting at least one tap of the transformed initial channel estimate to zero; and

inverse transforming the transformed initial channel estimate with at least one trap set to zero, to obtain the biased channel estimate.

6. A method according to Claim 5 further comprising:

repeating the transforming the initial channel estimate according to a transform matrix, the setting at least one tap of the transformed initial channel estimate to zero and the inverse transforming the transformed initial channel estimate with at least one trap set to zero, to obtain the biased channel estimate.

7. A method according to Claim 5 wherein the at least one tap is determined by comparing taps of the transformed initial channel estimate to at least one threshold.

8. A method according to Claim 5 wherein the at least one tap comprises at least one tap having largest values.

9. A method according to Claim 1 wherein the applying bias to the initial channel estimate to obtain a biased channel estimate comprises applying bias to the initial channel estimate to obtain a biased channel estimate that reduces error in an estimated channel response compared to the initial channel estimate.

10. A method according to Claim 1 wherein the applying bias to the initial channel estimate to obtain a biased channel estimate comprises applying bias to the initial channel estimate that reduces errors in the initial channel estimate that are due to non-orthogonality of the training symbols.

11. A method of estimating a channel response from training symbols that are received over a channel, the method comprising:

applying bias to an initial channel estimate to obtain a biased channel estimate that reduces error in an estimated channel response compared to the initial channel estimate.

12. A method according to Claim 11 further comprising:

using the biased channel estimate to demodulate a signal that is received over the channel.

13. A system for estimating a channel response from training symbols that are received over a channel, the system comprising:

an initial channel estimating circuit that is configured to determine an initial channel estimate from the training symbols that are received over the channel; and

a bias computing circuit that is configured to apply bias to the initial channel estimate to obtain a biased channel estimate.

14. A system according to Claim 13 further comprising:

a demodulator that is configured to use the biased channel estimate to demodulate a signal that is received over the channel.

15. A system according to Claim 13 wherein the bias computing circuit comprises:

a circuit that is configured to transform the initial channel estimate;

a circuit that is configured to perform an operation on the transformed initial channel estimate; and

a circuit that is configured to inverse transform the transformed initial channel estimate on which the operation was performed, to obtain the biased channel estimate.

16. A system according to Claim 13 wherein the bias computing circuit comprises:

a circuit that is configured to transform the initial channel estimate according to a transform matrix;

a circuit that is configured to set at least one tap of the transformed initial channel estimate to zero; and

a circuit that is configured to inverse transform the transformed initial channel estimate with at least one trap set to zero, to obtain the biased channel estimate.

17. A system according to Claim 16 wherein the at least one tap is determined by comparing taps of the transformed initial channel estimate to at least one threshold.

18. A system according to Claim 16 wherein the at least one tap comprises at least one tap having largest values.

19. A system according to Claim 13 wherein the bias computing circuit is further configured to apply bias to the initial channel estimate to obtain a biased channel estimate that reduces error in an estimated channel response compared to the initial channel estimate.

20. A system according to Claim 13 wherein the bias computing circuit is further configured to apply bias to the initial channel estimate that reduces errors in the initial channel estimate that are due to non-orthogonality of the training symbols.

21. A system for estimating a channel response from training symbols that are received over a channel, the system comprising:

a bias computing circuit that is configured to apply bias to an initial channel estimate to obtain a biased channel estimate that reduces error in an estimated channel response compared to the initial channel estimate.

22. A system according to Claim 21 further comprising:

a demodulator that is configured to use the biased channel estimate to demodulate a signal that is received over the channel.

23. A wireless receiver comprising:

a front end that is configured to receive training symbols over a channel;

an initial channel estimating circuit that is configured to determine an initial channel estimate from the training symbols that are received over the channel;

a bias computing circuit that is configured to apply bias to the initial channel estimate to obtain a biased channel estimate; and

a demodulator that is configured to use the biased channel estimate to demodulate a signal that is received over the channel.

24. A wireless receiver according to Claim 23 wherein the bias computing circuit comprises:

a circuit that is configured to transform the initial channel estimate;

a circuit that is configured to perform an operation on the transformed initial channel estimate; and

a circuit that is configured to inverse transform the transformed initial channel estimate on which the operation was performed, to obtain the biased channel estimate.

25. A wireless receiver according to Claim 23 wherein the bias computing circuit comprises:

a circuit that is configured to transform the initial channel estimate according to a transform matrix;

a circuit that is configured to set at least one tap of the transformed initial channel estimate to zero; and

a circuit that is configured to inverse transform the transformed initial channel estimate with at least one trap set to zero, to obtain the biased channel estimate.

26. A wireless receiver according to Claim 23 wherein the bias computing circuit is further configured to apply bias to the initial channel estimate to obtain a biased channel estimate that reduces error in an estimated channel response compared to the initial channel estimate.

27. A system according to Claim 23 wherein the bias computing circuit is further configured to apply bias to the initial channel estimate that reduces errors in the initial channel estimate that are due to non-orthogonality of the training symbols.

28. A wireless receiver comprising:

a front end that is configured to receive training symbols over a channel;

a bias computing circuit that is configured to apply bias to an initial channel estimate to obtain a biased channel estimate that reduces error in an estimated channel response compared to the initial channel estimate; and

a demodulator that is configured to use the biased channel estimate to demodulate a signal that is received over the channel.